

Title (en)
Cooling of a blade tip

Title (de)
Kühlung von einer Schaufelspitze

Title (fr)
Refroidissement de l'extrémité d'une aube

Publication
EP 2161412 A2 20100310 (EN)

Application
EP 09251734 A 20090703

Priority
GB 0815957 A 20080903

Abstract (en)
A rotary blade (32), such as a turbine blade for a gas turbine engine, has an aerofoil portion (38) with a tip (40) partly shrouded by winglets (42). A gutter (50) extends across the radially outer face of the tip (40) to leave upstands (52). Cooling air feed galleries (58) are drilled into each upstand (52), from the trailing edge (64), toward the upper end of a cooling air feed void (56), which is spaced from the trailing edge (64). Cooling passages (60) are drilled from the winglet edges (44) to the gallery (58). Cooling air supplied through the void (46) passes along the gallery (58), through the passages (60) and leaves the blade (32) at the cooling holes (62). This allows cooling to be provided near the trailing edge of the tip (40) without requiring the geometry around the trailing edge to be thickened to accommodate a cooling air void.

IPC 8 full level
F01D 5/18 (2006.01); **F01D 5/20** (2006.01)

CPC (source: EP US)
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Citation (applicant)
US 2005232771 A1 20051020 - HARVEY NEIL W [GB], et al

Cited by
EP2378076A1; EP2666967A1; EP2835454A1; US8851833B2; US8840361B2; US10563521B2; EP3330487A1; US10815800B2; EP2666968A1; EP3828388A1; US8845280B2; US9297262B2; US9188012B2; US10822960B2; US2018156042A1; US10465529B2; US10989056B2; US11725521B2

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